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Caesium product development work expands offtake options in looming tight market

- Caesium sulphate process refined to make catalyst quality chemicals
- Strong demand for caesium carbonate and hydroxide has led Lepidico to leverage its pioneering L-Max® work to develop process steps for manufacturing these high value chemicals from lepidolite
- Caesium sulphate, carbonate and hydroxide catalyst applications lead to reduced energy consumption and higher yields, that should help offset a material proportion of Scope 3 greenhouse gas emissions
- Provisional patent application lodged for the manufacture of ternary Cs-Rb-K catalyst compounds from lithium mica minerals
- Caesium market conditions predicted to become extremely tight in 2022 as a size producer ceases operations

Lepidico Ltd (ASX:LPD) (“Lepidico” or “Company”), an innovative developer of sustainable chemicals for twenty-first century industry, has reached a significant milestone that demonstrates it can produce catalyst grade caesium compounds. Samples of both caesium sulphate and caesium hydroxide have been generated and are in the process of being dispatched for customer assessment. Further samples of caesium hydroxide are also in the process of being manufactured.

Consumers have advised that the caesium market is on the cusp of significant tightening as one of just two size producers of caesium chemicals globally ceases production due to depletion of a major pollucite raw material feed source. Lepidolite is a viable alternative source of caesium when processed using Lepidico’s proprietary hydrometallurgical technologies, developed over the past eight years. Conventional roasting of lithium mica concentrates does not generate valuable by-products, with metals such as caesium and rubidium being lost to process waste.

Lepidico’s Managing Director, Joe Walsh said, “Lepidico’s Phase 1 chemical plant will provide a much needed new source of caesium chemicals for industrial users. We have seen significant interest in our products and have now refined our process to meet specific customer specification requirements. This has only been possible by leveraging the know-how gained over the years in developing L-Max® and other proprietary technologies. Caesium based chemical catalysts are environmentally sound products that enhance product yields and reduce process energy consumption in their various applications, which complements Lepidico’s drive for excellence in environmental stewardship.”

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Over the past year, discussions with a range of industrial caesium consumers have allowed product specifications to be developed for the relatively broad applications of caesium sulphate, caesium hydroxide and caesium carbonate. A hydrometallurgical refining process to produce catalyst quality caesium sulphate has been developed, with subsequent process steps for conversion to hydroxide or carbonate. Positive feedback has been received from a range of consumers on the specifications for these products. Caesium chemical samples have been prepared and are now being dispatched for customer testing. Lepidico is seeking binding caesium offtake terms in line with completion of the Phase 1 Project Front End Engineering and Design works, scheduled for late November 2021.

This caesium development work has led Lepidico to lodge a provisional patent application for the manufacture of ternary Cs-Rb-K compounds generated from lithium mica source material, for use in a wide range of catalyses. Annual demand from chemical catalyst applications is estimated to range between 300t to 400t in a total caesium market of between 1,000t and 1,200t pa, on a contained metal basis. Lepidico's Phase 1 chemical plant is designed to produce up to 200t pa of caesium metal in chemicals.

ABOUT LEPIDICO

As the global leader in lithium mica processing Lepidico is an integrated developer of sustainable lithium hydroxide and other critical minerals.

With a tech-focused, pilot-proven, ESG-led business model, we deliver lithium from a far less contested mineral source. Our first delivery is due in 2023.

Committed to evolving our tech and operations to become best-in-class across ESG criteria, a key theme of Lepidico's mission is to prove profit is not incompatible with sustainability. Our dual objectives are to meaningfully contribute to the decarbonisation of the world's alkali metals supply chains, whilst delivering attractive returns to shareholders.

To both those ends we are growing our integrated mining to chemicals business, whilst also licencing our L-Max® and LOH-Max® technologies to other processing companies.

For more information, [please visit our website](#).

Further Information

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The Company cannot and does not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this release will actually occur and investors are cautioned not to place any reliance on these forward-looking statements. Lepidico does not undertake to update or revise forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this release, except where required by applicable law and stock exchange listing requirements.